



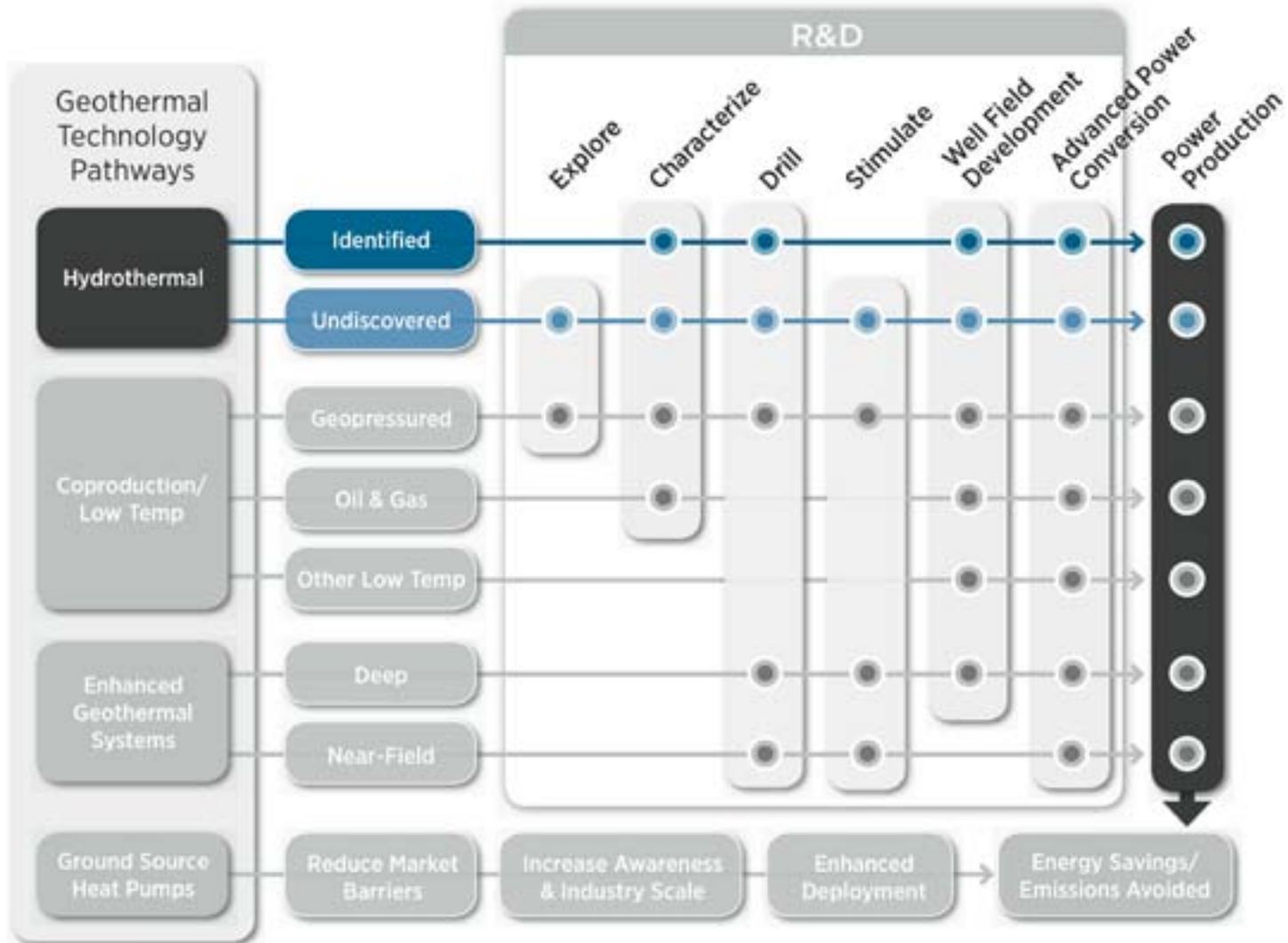
## Innovative Exploration Technologies Subprogram Overview

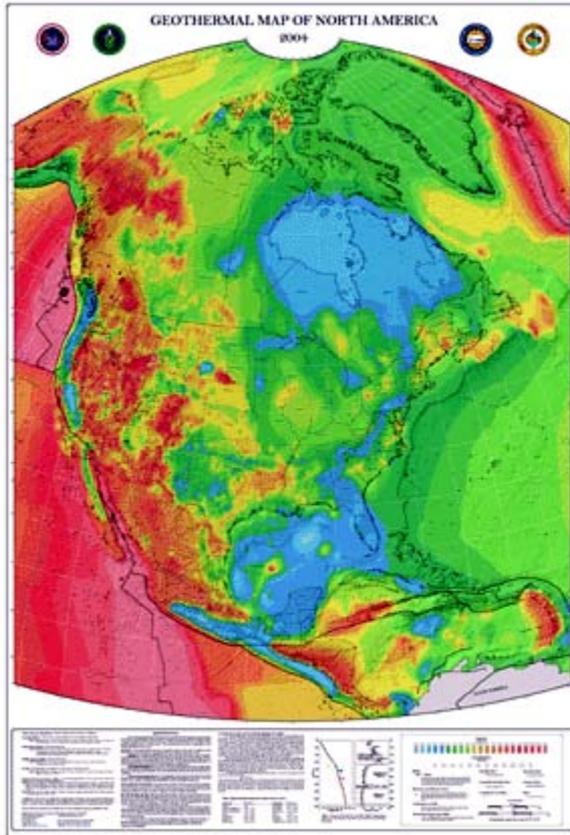
May 18, 2010

Geothermal Technologies Program Peer Review

Crystal City, VA

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30,000 MW  
of undiscovered hydrothermal resources

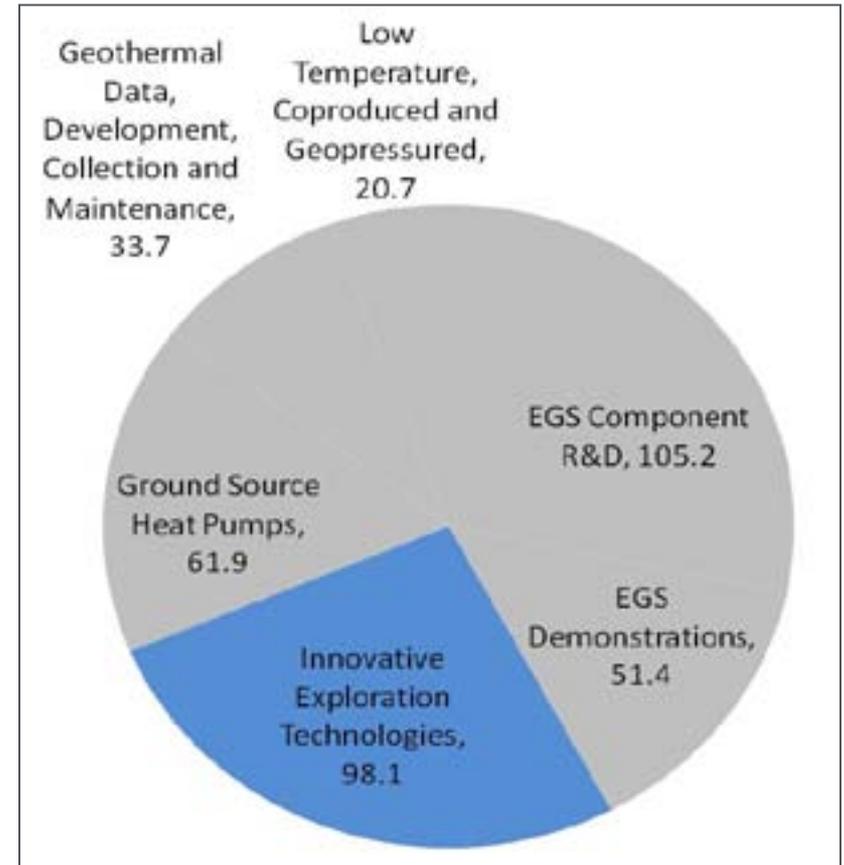
500,000 MW  
of EGS resources lie beneath  
13 western states

Ref. USGS 2008

# Recovery Act – Innovative Exploration Technologies



ARRA investment category	\$Millions
Validation of Innovative Exploration Technologies (IET)	98.1
EGS Component R&D funding that advances exploration technologies:	14.9
<b>Total</b>	<b>113</b>



Investment in \$millions

- 24 Projects
- Recipients in industry, academia, local governments and native tribes
- Projects in 8 states

Recipients	
El Paso County	Utah State University
Flint Geothermal LLC	Geoglobal Energy, LLC
Newberry Geothermal Holdings, LLC	Geothermal Technical Partners
Ormat Nevada, Inc	Magma Energy Corp.
Pueblo of Jemez	Nevada Geothermal Power Company
Pyramid Lake Paiute Tribe	Oski Energy, LLC
Ram Power, Inc	Presco Energy, LLC
Sierra Geothermal Power	University of Alaska Fairbanks
University of Kansas	Vulcan Power Company
US Geothermal, Inc	



## Remote Sensing

- Airborne magneto-telluric
- Hyperspectral surveys
- InSAR

## Geochemistry

- Geothermometry
- Tracers

## Advanced Seismic Methods

- Tech transfer from oil & gas
- Advancement in our ability to image potentially productive fluid pathways

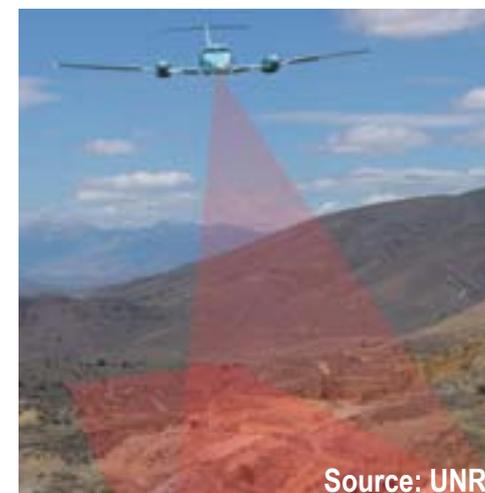
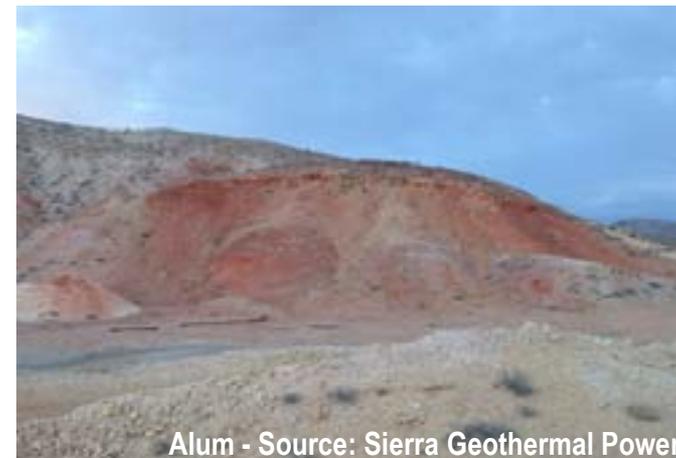
## Shallow Temperature Surveys

- 2 m probes

## Stress/strain measurements

## Drilling

## Combinations of methods



- **Reduce high level of risk** during early stages of development
- Validate innovative exploration technologies
- **Confirm** new geothermal capacity (at least 400 MW)
- **Provide data** to the NGDS



- Executing the 24 current projects successfully
- Gathering data from the projects
  - Analyzing what works and what doesn't
- Expand resource assessment and NGDS
- Exploration best practices study
- Baseline exploration success rate study
- Risk assessment
- Exploration technologies road mapping
- Use results to decide next steps
  - Where can we make the most impact?





**Thank you!**

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